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10/623,683	07/21/2003	Ramesh Nallur	A-8378	5317
7590 12/28/2007 Scientific-Atlanta, Inc. Intellectual Property Dept. MS 4.3.510 5030 Sugarloaf Parkway Lawrenceville, GA 30044				
EXAMINER				
SIPPLE IV, EDWARD C				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/623,683

**Applicant(s)**

NALLUR ET AL.

**Examiner**

EDWARD C. SIPPLE IV

**Art Unit**

4178

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date 11/05/04.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1-14 and 16-40** are rejected under 35 U.S.C. 102(b) as being anticipated by Moeller (U.S. Patent 5,828,370).

For **Claim 1** Moeller teaches:

a method for providing a seamless transition between video play-back modes, (Column 4 Lines 47-51) comprising the steps of:

storing a video stream in memory (Col. 8 Lines 15-19);

receiving a request for a trick mode operation (Col. 12 Lines 1-7);

responsive to receiving the request for a trick mode operation (Col. 12 Lines 34-37), using information provided by a video decoder to identify a first video picture to be decoded (Col. 3 Lines 9-13 and 21-23; and Fig. 5 Element 104 with Col. 9 Lines 31-35);

decoding the first video picture (Col. 13 Lines 9-14); and

outputting the first video picture to a display device (Col. 4 Lines 22-26).

For **Claim 2** as discussed in independent Claim 1, Moeller further teaches:

decoding and outputting a second video picture (Col. 13 Lines 21-22)

wherein the first video picture and the second video picture are part of a group of pictures (Col. 11 Lines 34-36, note frames within a group of pictures compose the video stream).

For **Claim 3** as discussed in independent Claim 1, Moeller further teaches:

the information provided by the video decoder is a time value that is associated with the first video picture (Col. 9 Lines 31-35).

For **Claim 4** as discussed in independent Claim 1, Moeller further teaches:

the first video picture is adjacent in display order to another video picture that was being output to the display device when the request for the trick mode operation was received (Col. 7 Lines 24-33 and 38-43).

For **Claim 5** as discussed in independent Claim 1, Moeller further teaches:

the video stream is received from a headend (Fig. 1 Elem. 50 with Col. 6 Lines 18-23).

For **Claim 6** as discussed in independent Claim 1, Moeller further teaches:

the memory is non-volatile memory (Col. 8 Lines 42-48, note CD-ROM and DVD disks are types of non-volatile memory).

For **Claim 7** as discussed in independent Claim 1, Moeller further teaches:

storing information related to the video stream in memory (Fig. 6 with Col. 4 Lines 34-41 and Col. 13 Lines 9-14).

For **Claim 8** as discussed in Claim 7, Moeller further teaches:

a demultiplexing system (Col. 1 Lines 22-23 and Col. 7 Lines 2-11) uses data embedded in the video stream to generate the information related to the video stream (Col. 9 Lines 31-36 and 52-59, and Fig. 6).

For **Claim 9** as discussed in Claim 7, Moeller further teaches:

the information related to the video stream comprises an index table (Fig. 6 with Col. 8 Lines 55-61).

For **Claim 10** as discussed in Claim 9, Moeller further teaches:

the index table identifies when each of a plurality of pictures within the video stream was stored in memory relative to a point in time (Col. 10 Lines 4-20 with Col. 11 Lines 24-31).

For **Claim 11** as discussed in Claim 10, Moeller further teaches:

the point in time corresponds to when recording of the video stream commences (Col. 10 Lines 4-20).

For **Claim 12** as discussed in Claim 9, Moeller further teaches:

the index table associates time values with respective video pictures within the video stream (Fig. 6 with Col. 49-58).

For **Claim 13** as discussed in Claim 9, Moeller further teaches:

the index table associates values with respective video pictures within the video stream (Fig. 6 with Col. 9 Lines 51-58), the values being indicative of a display order of the pictures within the video stream (Col. 6 Lines 52-54).

For **Claim 14** as discussed in Claim 9, Moeller further teaches:

the index table identifies storage locations of respective picture start

codes (Fig. 6 with Col. 9 Lines 52-57, note the index tables map "normal play time" to a *file offset* which corresponds to an entry point into a video stream).

For **Claim 16** as discussed in Claim 9, Moeller further teaches:

the index table identifies storage locations of respective sequence headers (Col. 9 lines 31-37 and 52-57).

For **Claim 17** as discussed in independent Claim 1, Moeller further teaches:

the trick mode operation is one of a fast -play mode, a rewind mode, or a play mode (Col. 4 Lines 27-31 with Col. 11 Lines 1-4).

For **Claim 18** as discussed in independent Claim 1, Moeller further teaches:

the information provided by the video decoder identifies a normal playback time required to reach the first video picture from a beginning of the video stream (Col. 10 Lines 4-20).

For **Claim 19** as discussed in independent Claim 1, Moeller further teaches:

examining information in an index table (Col. 11 Lines 1-5);

examining annotation data corresponding to the video stream (Fig. 6 with Col. 9 Lines 31-37 and Col. 11 Lines 1-5); and

determining an entry point for fulfilling the trick mode request (Col. 11 Lines 1-5) responsive to the annotation data and the information in the index table (Fig. 6 with Col. 9 Lines 31-37).

For **Claim 20** as discussed in independent Claim 1, Moeller further teaches:

the method is implemented by a television set-top terminal (Col. 6 Lines 66-67 through Col. 7 Lines 1-7; with Col. 13 Lines 11-14), and wherein the

display device is a television (Col. 6 Lines 56-65).

For **Claim 21** Moeller teaches:

A method comprising the steps of:

receiving a first video stream from a video server, the video stream comprising a plurality of video pictures (Col. 12 Lines 26-32);

decoding a current video picture from among the plurality of video pictures (Col. 7 Lines 4-11 with Col. 11 Lines 56-61, note displaying a streamed video through a set top box entails decoding a current video picture among a plurality of pictures);

receiving user input requesting a trick-mode operation (Col. 12 Lines 1-7);

transmitting a value associated with the current video picture and information identifying the trick mode operation to the video server (Col. 12 Lines 34-44); and

receiving from the video server a second video stream configured to enable a seamless transition to the trick-mode operation (Col. 3 Lines 34-51 with Col. 11 Lines 1-5).

For **Claim 22** as discussed in independent Claim 21, Moeller further teaches:

the value associated with the current video picture is a time value (Col. 13 Lines 8-11).

For **Claim 23** as discussed in Claim 22, Moeller further teaches:

the time value is relative to a beginning of the first video stream (Col. 13

Lines 5-11).

For **Claim 24** as discussed in independent Claim 21, Moeller further teaches:

the value associated with the current video picture enables identification of a storage location corresponding to the video picture (Col. 12 Lines 34-44, and Col. 12 Lines 64-67 through Col. 13 Line 1).

For **Claim 25** as discussed in independent Claim 21, Moeller further teaches:

the trick mode operation is one of a fast play mode, a rewind mode, or a play mode (Col. 13 Lines 23-31).

For **Claim 26** as discussed in independent Claim 21, Moeller further teaches:

the method is implemented by a television set-top terminal (Col. 6 Lines 56-67 through Col. 7 Lines 1-7, with Col. 13 Lines 11-14);

the display device is a television (Col. 6 Lines 58-60); and

the video server is located at a headend (Fig. 1 Elem. 50 with Col. 6 Lines 18-23).

For **Claim 27** as discussed in independent Claim 21, Moeller further teaches:

one of the video pictures in the second video stream is temporally adjacent to the current video picture (Col. 11 Lines 1-5, note Moeller teaches switching between equivalent positions within a trick play stream and a normal speed stream; thus a frame contained within a second stream will be displayed immediately following [temporally adjacent] the last frame displayed from a previous stream).

For **Claim 28** Moeller teaches:



a method for providing a seamless transition between video play-back modes (Col. 11 Lines 1-5), comprising the steps of:

decoding a current video picture (Col. 7 Lines 4-11 with Col. 9 Lines 21-29, note the set top box taught by Moeller decompresses and displays a video stream);

parsing a stuffing transport packet (STP) comprising a time value corresponding to the current video picture (Col. 3 Lines 4-11 with Col. 9 Lines 31-37); and

storing the time value in memory (Fig. 6 with Col. 9 Lines 52-57 with Col. 10 Lines 33-40 and Col. 13 Lines 9-14).

For **Claim 29** as discussed in independent Claim 28, Moeller further teaches:

using the time value to identify a location from which to begin a trick mode operation within a video presentation (Col. 11 Lines 1-5).

For **Claim 30** as discussed in Claim 29, Moeller further teaches:

the location corresponds to the current video picture (Col. 3 Lines 36-45 and Col. 4 Lines 46-51).

For **Claim 31** as discussed in Claim 29, Moeller further teaches:

the location corresponds to a video picture that is adjacent in display order to the current video picture (Col. 11 Lines 1-5 and Col. 13 Lines 23-30 note, the frame referenced following the jump trick mode operation is displayed immediately following the picture that was being displayed before the trick mode operation).

For **Claim 32** as discussed in independent Claim 28, Moeller further teaches:

the trick mode operation is one of a fast play mode, a rewind mode, or a play mode (Col. 4 Lines 27-31 with Col. 11 Lines 1-4).

For **Claim 33** as discussed in independent Claim 28, Moeller further teaches:

the time value is correlated to a normal play-time from a beginning of a video stream to the current video picture (Col. 10 Lines 4-15).

For **Claim 34** as discussed in independent Claim 28, Moeller further teaches:

the method is implemented by a video decoder (Fig. 4 Elem. 74 with Col 4 Lines 27-44, note the video server decodes video streams).

For **Claim 35** Moeller teaches:

a system for providing a seamless transition between video play-back modes (Col. 4 Lines 46-51), comprising:

a memory device for storing a video stream that includes a current video picture (Fig. 4 Elem. 90 with Col. 8 Lines 15-22);

a processor that is coupled to the memory device (Fig. 4 Elem. 80 with Col. 8 Lines 10-15); and

a video decoder that is coupled to the processor (Fig. 4 Elem. 74 with Col. 8 Lines 18-23), and that is configured to:

decode the current video picture (Col. 8 Lines 41-52),

parse a stuffing transport packet (STP) that includes a time value corresponding to the current video picture (Col. 3 Lines 8-13 with Col. 9 Lines 31-42), and

store the time value (Fig. 6 with Col. 9 Lines 52-57 with Col. 10 Lines 33-40 and Col. 13 Lines 9-14).

For **Claim 36** as discussed in independent Claim 35, Moeller further teaches:

the processor is programmed to use the time value to identify a location from which to begin a trick mode operation within a video presentation (Col. 11 Lines 1-5).

For **Claim 37** as discussed in Claim 36, Moeller further teaches:

the location corresponds to the current video picture (Col. 3 Lines 36-45 and Col. 4 Lines 46-51).

For **Claim 38** as discussed in Claim 36, Moeller further teaches:

the location corresponds to a video picture that is adjacent in display order to the current video picture (Col. 11 Lines 1-5 and Col. 13 Lines 23-30 note, the frame referenced following the jump trick mode operation is displayed immediately following the picture that was being displayed before the trick mode operation).

For **Claim 39** as discussed in independent Claim 35, Moeller further teaches:

the trick mode operation is one of a fast play mode, a rewind mode, or a play mode (Col. 4 Lines 27-31 with Col. 11 Lines 1-4).

For **Claim 40** as discussed in independent Claim 35, Moeller further teaches:

the time value is correlated to a normal play-time from a beginning of the video stream to the current video picture (Col. 10 Lines 4-15).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 15 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Moeller (US Patent 5,828,370) in view of Hallberg (US Patent 7,027,713).

For **Claim 15** as discussed in Claim 9, Moeller further teaches:

the index table identifies picture locations (Fig. 6 with Col. 10 Lines 36-40)

Moeller does not expressly teach:

the index table identifies picture types

Hallberg teaches:

an index table identifies picture types (Fig. 7 with Col. 8 Lines 26-33)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to identify picture types as taught by Hallberg, within the index table taught by Moeller. The motivation would have been to allow for the identification of intra frames, which provide an entry point into a video stream.

For **Claim 41** Moeller teaches:

a method for providing a seamless transition between video play-back modes (Col. 11 Lines 1-5), comprising the steps of:

storing a video stream in memory (Col. 8 Lines 15-19);

storing information related to the video stream in memory (Fig. 6 with Col.

4 Lines 34-41 and Col. 13 Lines 9-14)

receiving a request for a trick mode operation (Col. 12 Lines 1-7);

responsive to receiving the request for a trick mode operation (Col. 12 Lines 34-37), using information provided by a video decoder to identify a first video picture to be decoded (Col. 3 Lines 9-13 and 21-23; and Fig. 5 Element 104 with Col. 9 Lines 31-35);

decoding the first video picture (Col. 13 Lines 9-14); and

outputting the first video picture to a display device (Col. 4 Lines 22-26)

decoding and outputting a second video picture (Col. 13 Lines 21-22) wherein the first video picture and the second video picture are part of a group of pictures (Col. 11 Lines 34-36, note frames within a group of pictures compose the video stream)

wherein the information provided by the video decoder is a time value that is associated with the first video picture (Col. 9 Lines 31-35)

wherein the first video picture is adjacent in display order to another video picture that was being output to the display device when the request for the trick mode operation was received (Col. 7 Lines 24-33 and 38-43)

wherein the video stream is received from a headend (Fig. 1 Elem. 50 with Col. 6 Lines 18-23);

wherein the memory is non-volatile memory (Col. 8 Lines 42-48, note CD-ROM and DVD disks are types of non-volatile memory);

wherein the information related to the video stream comprises an index table (Fig. 6 with Col. 8 Lines 55-61);

wherein the index table associates time values with respective video pictures within the video stream (Fig. 6 with Col. 49-58);

wherein the index table identifies storage locations of respective picture start codes (Fig. 6 with Col. 9 Lines 52-57, note the index tables map "normal play time" to a *file offset* which corresponds to an entry point into a video stream);

wherein the index table identifies storage locations of respective sequence headers (Col. 9 lines 31-37 and 52-57);

wherein the trick mode operation is one of a fast -play mode, a rewind mode, or a play mode (Col. 4 Lines 27-31 with Col. 11 Lines 1-4);

wherein the information provided by the video decoder identifies a normal playback time required to reach the first video picture from a beginning of the video stream (Col. 10 Lines 4-20);

wherein in response to the request (Col. 3 Lines 38-44 with Col. 13 Lines 23-26), a processor reads information in an index table (Col. 13 Lines 10-14) and determines an entry point for fulfilling the trick mode request (Col. 11 Lines 1-5);  
and

wherein the method is implemented by a television set-top terminal (Col. 6 Lines 56-67 through Col. 7 Lines 1-7, with Col. 13 Lines 11-14).

the index table identifies picture locations (Fig. 6 with Col. 10 Lines 36-40)  
Moeller does not expressly teach:

the index table identifies picture types

Hallberg teaches:

an index table identifies picture types (Fig. 7 with Col. 8 Lines 26-33)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to identify picture types as taught by Hallberg, within the index table taught by Moeller. The motivation would have been to allow for the identification of intra frames, which provide entry points into a video stream.

### ***Conclusion***

3. The following is prior art made of record and not relied upon, but considered to be pertinent to applicant's disclosure:

US Patent 5,606,359 "Video on demand system with multiple data sources",

US Patent 6,201,927 "Trick play reproduction of MPEG encoded signals", and

US Patent 6,658,199 "Method for temporally smooth, minimal memory MPEG-2 trick play transport stream".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD C. SIPPLE IV whose telephone number is (571)270-3414. The examiner can normally be reached on M-F 8-5 EST 5/4/9 schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hai Tran can be reached on 571 272 7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4178

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ES

12/20/2007

/Hai Tran/

Supervisory Patent Examiner, Art Unit 4178